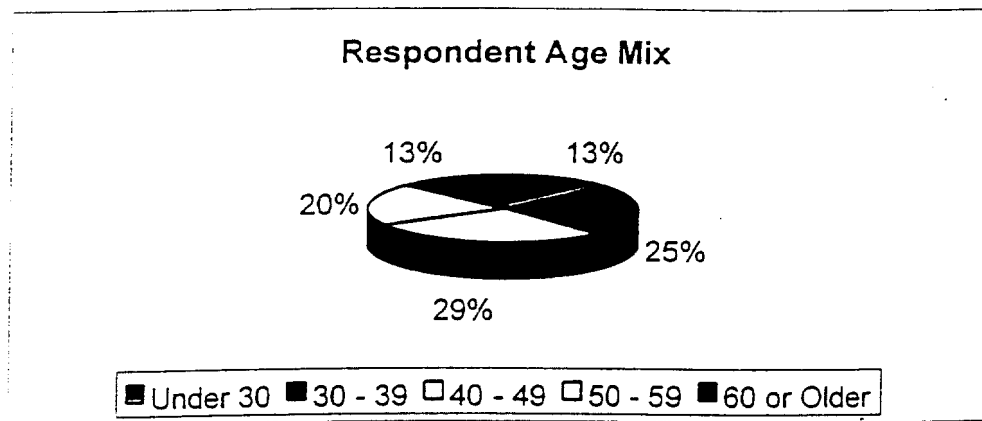
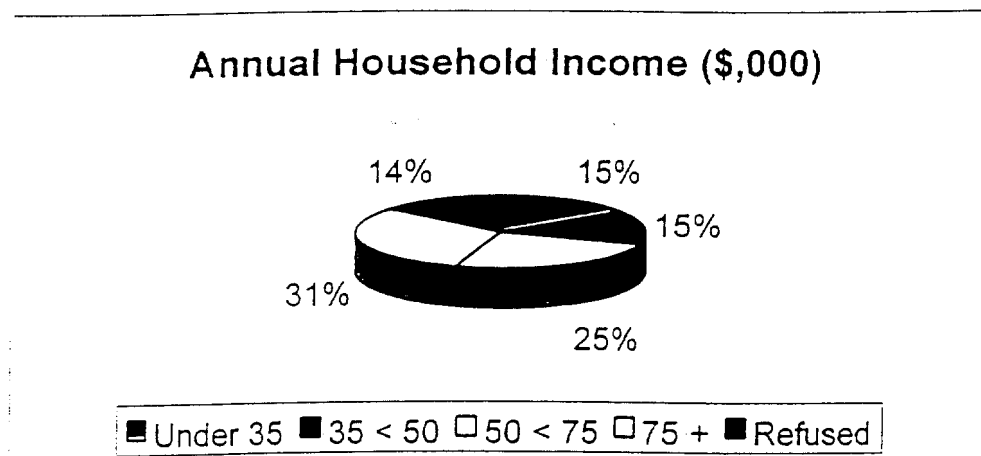


14.) Age



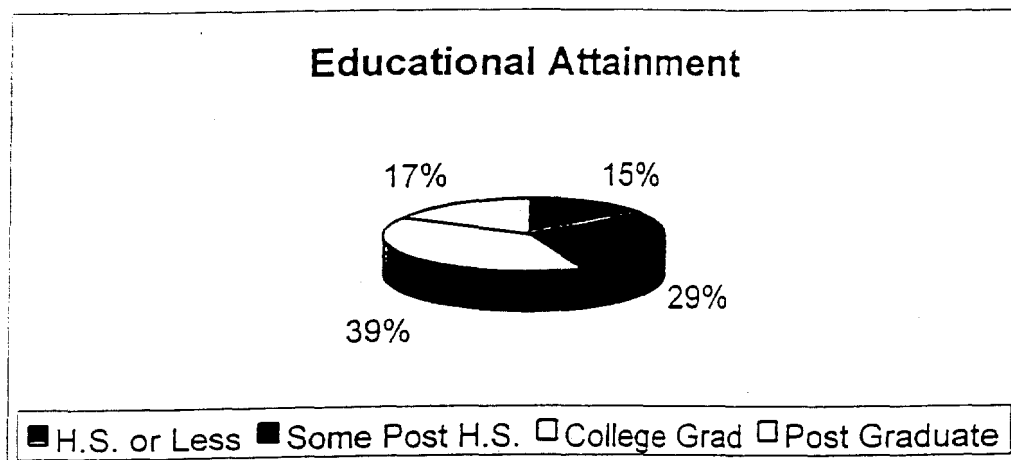
The median age category of the sample population was the 40 – 49 years of age group. This category contained the 1997 U.S. Census estimate for adults in the area (47.6 years).

15.) Which bracket best represents your total annual household income?



Most respondents (86%) were willing to disclose their household income. The median reported income was in the \$50K to \$75K range.

16.) And what is the highest level of education you had the opportunity to complete?



Most respondents (98%) were willing to disclose their level of education and most (56%) indicated that they had graduated from college.

DISCUSSION GUIDE – 15 DEPTH INTERVIEWS
TAHOE-DONNER PUBLIC UTILITY DISTRICT

Conducted by
SIERRA MARKET RESEARCH

January 2000

Hello, my name is _____ and I am calling from Sierra Market Research. We are seeking your input on issues related to services you receive on the property that you own in the Truckee area. We are interested in your opinions concerning new capabilities that would enhance communications in that area. We are strictly a research firm and your comments will be held in strict confidence.

Are you somewhat familiar with the pricing of television, telephone and internet services you may receive in the Truckee area? IF NOT FAMILIAR, ASK TO SPEAK WITH FAMILY MEMBER MOST FAMILIAR WITH THESE SERVICES.

Tell me whether your Truckee property is used primarily as a second residence for yourself, or if you rent it out on an ongoing basis such that it is primarily an investment or income property. IF INVESTMENT/INCOME, THANK & TERMINATE.

How long have you owned this property? How long do you expect to keep this property? IF OWNED LESS THAN ONE YEAR OR INTEND TO KEEP LESS THAN ONE YEAR, THANK & TERMINATE.

In a given 12-month period, about how many trips do you make to your property where you stay overnight at least 2 nights? And what is the longest duration of stay in a 12-month period? IF FEWER THAN 12 TRIPS OR DURATION LESS THAN 2 WEEKS, THANK & TERMINATE.

How often do members of your family use the internet, either from home or from work? IF LESS THAN ONCE EACH WEEK, THANK & TERMINATE.

I will need about 20 minutes of your time for this discussion. If this is not a convenient time for you, I would like to schedule a time that would better fit your schedule. If you would care to call me at a specific time, I will provide you with a number and we can proceed in that fashion.

Call back time, date, phone, name _____.

THE DISCUSSION

I would like you tell me a little bit about how you remain in contact with your primary residence, place of employment and the world at large when staying in your Truckee home. That is, I would like to know about your usage of such things as the telephone, internet and television services in the area. Let's talk about each of those services in the order you consider most important.

PROBE: Provider of service and reputation.
 Length of service.
 Reliability and satisfaction.
 Perceived value.
 Price issues.

You had mentioned being (satisfied/unsatisfied) with Service A. What could be done to make your life better with respect to that service?

Briefly tell me about your experiences with the following companies in the Truckee area. ROTATE EACH

TDPUD
CATV (USA Media/Westar) or STV (DISH/DirectTV) operator
ISP provider (local or national)
Local telephone service provider (PacBell)

Do you feel it would be appropriate for any of the above providers to offer expanded services in areas currently offered by the other companies?

Which organization do you think would be the best provider of a broad offering of such services? Why do you say that?

If TDPUD were to be the provider of these services, how would you respond? Complain? Switch to TDPUD?

Thank you for helping me with your comments. You will likely be hearing more about the issues we just discussed and your input will be very valuable in helping various businesses decide how to make improvements to the services afforded you in the Truckee area.

TRUCKEE DONNER PUD
EXPANDED SERVICES STUDY
JANUARY 2000

Survey #: _____

Hello, my name is ____ from Sierra Market Research. We are contacting area residents to get their opinions concerning a new business venture being considered in Truckee. May I please speak with the person in your household who makes decisions regarding television and internet services that you use.

[IF NECESSARY: Is this a convenient time for you to spend 10 minutes with me to answer some questions?

IF NOT SCHEDULE A CONVENIENT DAY AND TIME TO CALL BACK.

S1. Are you, or is any member of your immediate household, employed by a utility company or a cable television company?

- 1 ☐ Yes **TERMINATE**
- 2 ☐ No **CONTINUE**
- 3 ☐ DK/Refused **TERMINATE**

S2. Do you occupy your Truckee home or is it rented out to others and more of an investment property?

- 1 ☐ An investment property. **TERMINATE**
- 2 ☐ Used by respondent as a residence **CONTINUE**
- 3 ☐ DK/Refused **TERMINATE**

S3. Are you familiar with computers and the internet, or are you interested in becoming familiar with these things in the near future?

- 1 ☐ No, not familiar and not interested. **TERMINATE**
- 2 ☐ Familiar with computers and the internet **CONTINUE**
- 3 ☐ Not familiar, but interested. **CONTINUE**
- 4 ☐ DK/Refused **TERMINATE**

1.) **Record Gender** 1-☐ Male 2-☐ Female

2.) Who provides your television signal?
(READ LIST IF NECESSARY)

- 1-☐ Cable – USA Media/Weststar Communications
- 2-☐ Satellite – DISH Network
- 3-☐ Satellite – DirectTV
- 4-☐ (DO NOT READ)Other/Don't Know/Refused
- 5-☐ (DO NOT READ)No television service SKIP TO Q.4

Using a school grade system, where "A" = very satisfied, "B" = somewhat satisfied, "C" = neither satisfied or dissatisfied, "D" = somewhat dissatisfied and "F" = not at all satisfied, please tell me how satisfied you are with:

ROTATE SELECTIONS

	<u>Very Satisfied</u>				<u>Not at all Satisfied</u>	
	A	B	C	D	F	DK
3.) a. The quality of your television signal	4	3	2	1	0	5
b. The station selection available to you	4	3	2	1	0	5
c. The monthly price you pay for your signal	4	3	2	1	0	5
d. The choices you have for who provides your signal	4	3	2	1	0	5

4.) Who provides your residence or local business with internet service?
(READ LIST IF NECESSARY)

- 1-☐ Local/regional (JPS Net, Great Basin, etc.)
- 2-☐ National (AOL, AT&T, CompuServe, etc.)
- 3-☐ (DO NOT READ)No internet service SKIP TO Q8
- 4-☐ (DO NOT READ)Other/Don't Know/Refused

Again, using a school grade system, with "A" = very satisfied, "B" = somewhat satisfied, "C" = neither satisfied or dissatisfied, "D" = somewhat dissatisfied and "F" = not at all satisfied, please tell me how satisfied you are with:

ROTATE LIST

	<u>Very Satisfied</u>				<u>Not at all Satisfied</u>	
	A	B	C	D	F	DK
5.) a. The speed of your internet service	4	3	2	1	0	5
b. The reliability of your internet service	4	3	2	1	0	5
c. The ease of getting a line for the service	4	3	2	1	0	5
d. The price you pay for your internet service	4	3	2	1	0	5
e. The choices you have for internet services	4	3	2	1	0	5

The next few questions are for classification purposes only.

11.) Is your residence a...

- 1-☐ Single family dwelling
- 2-☐ A complex of 2, 3 or 4 units
- 3-☐ A complex of 5 or more units
- 4-☐ A mobile home
- 5-☐ Other/Refused

12.) Is your Truckee residence your primary residence or more of a part-time residence?

- 1-☐ Primary
- 2-☐ Part-time residence
- 3-☐ Refused

13.) How long have you lived in the Truckee area?

- 1-☐ Less than one year
- 2-☐ 1 < 3 years
- 3-☐ 3 < 6 years
- 4-☐ 6 < 10 years
- 5-☐ 10 or more years
- 6-☐ Don't Know/Refused

14.) And are you...

- 1-☐ Under 30 years old
- 2-☐ 30 - 39
- 3-☐ 40 - 49
- 4-☐ 50 - 59
- 5-☐ 60 - 69
- 6-☐ 70 or over
- 7-☐ Refused

15.) And which of the following brackets best represents your total annual household income?

- 1-☐ Under \$15,000
- 2-☐ \$15K < \$25K
- 3-☐ \$25K < \$35K
- 4-☐ \$35K < \$50K
- 5-☐ \$50K < \$75K
- 6-☐ \$75K or over
- 7-☐ Refused

16.) And what is the highest level of education you had the opportunity to complete?

- 1-☐ Less than High School Grad
- 2-☐ High School Grad
- 3-☐ Some College
- 4-☐ Trade or technical school
- 5-☐ College grad
- 6-☐ Post grad work
- 7-☐ Refused

Thank you very much. Those are all the questions we have for you.

APPENDIX 2

CURRENT TDPUD OPERATIONS

TDPUD, as a local agency with a long-term service record, furnishes electricity to 8,700 customers and water to 6,400 customers in the Truckee area. ¹ As reflected in its mission statement, TDPUD is *committed to the well-being of the Truckee community; bringing innovation, competence and trustworthiness in the delivery of water and electric services.*

TDPUD, as a non-profit, publicly owned utility, is governed by officials elected by District voters. TDPUD's policies and rates are established by the Board of Directors, which conducts studies and assesses implications of new legislation and alternatives. TDPUD is a member of the Northern California Power Agency (NCPA), which provides schedule coordination, engineering, and regulatory services support. The District is a participant in the Truckee River Operating Agreement (TROA) governing the quantity of water that can be diverted and depleted from the Truckee River Basin.

The District service area encompasses the following communities:

Community	Electric	Water
Downtown Truckee	x	X
Armstrong Tracts	x	x
Biltz Tract	x	x
Donner Lake	x	
Gateway	x	x
Glenshire (portions)	x	
Meadow Park	x	x
Olympic Heights	x	x
Ponderosa Palisades	x	x
Ponderosa Ranchos	x	x
Prosser Heights	x	x
Prosser Lakeview	x	x
Sierra Meadows	x	x
Sugar Pine Estates	x	
Tahoe Donner	x	x

¹ Sierra Pacific Power Company and Pacific Gas and Electric serve surrounding areas. Del Oro Water Company serves Donner Lake; Glenshire residents receive water from the Glenshire Mutual Water Company.

Growth in the TDPUD's service territory has been consistent for the past twenty years. The population of Truckee is growing at a rate of approximately 2.5 percent, and is expected to continue for the foreseeable future. This growth will add approximately 300 new homes per year to the customer base; and commercial growth is expected to continue at a comparable pace.

ELECTRIC SYSTEM

TDPUD purchases its energy through bilateral contracts with entities outside the Truckee area, primarily Idaho Public Power. Power is brought to the TDPUD's four substations and one metering point over Sierra Pacific Power Company's transmission system. Power is then distributed over the TDPUD's fifteen circuit arrangements to its 8,700 electric customers.

TDPUD anticipates that it will be doing business with a different set of entities and evolve new relationships with its customers as competition replaces the traditional monopoly structure:

- Customers will be responsive to lower prices, increasingly reliable service, quicker reaction to outages, more convenient business practices, and knowledgeable customer service representatives.
- TDPUD will need to remain price competitive for the services that it provides.

WATER SYSTEM

TDPUD acquires its water from deep aquifers within the Truckee groundwater basin area. Water is transported to Truckee's high elevations through a series of pump stations and stored in strategically placed water tanks located throughout the community. The water system is designed to maintain high pressure for fighting urban fires as well as for all domestic water uses.

Access to water supplies will likely become more extensively regulated in the future and be subject to quantity limits. TROA will constrain the development of future wells, and resources available throughout the Truckee River Basin.

- The quality of the water in the groundwater basin is critical to keeping water costs low. A groundwater management program, in conjunction with other users of the basin, may be required.
- Limitations on water supply will require conservation measures in the future. As such, there will be increasing pressure to implement a metered water rate.

Opportunities for cost saving through efficient energy management of pumping stations have been identified; but this requires integrated electric and water SCADA operations.

APPENDIX 3 TELECOMMUNICATIONS PRODUCTS AND SERVICES TO BE OFFERED BY TPUD

The TDPUD market for telecommunications service includes:

- Residential customers who could benefit from price competition and enhanced service quality.
- Large institutions and businesses desiring to establish their own alternate access arrangements, and small businesses.
- Intermediaries, such as long distance inter-exchange carriers (IXCs), competitive local exchange carriers (CLECs), competitive access providers (CAPs), Internet service providers (ISPs), and CATV service providers

Initially four types of telecommunications services are to be offered by the TDPUD:

- High-speed data transport
- Internet data transport
- Cable television
- Lease of dark fiber

These services are to accommodate the growing telecommunications needs of the greater Truckee area, and are discussed, in turn, in the following sections.

HIGH-SPEED DATA TRANSPORT

High-speed data transport on fiber optic SONET systems are to be offered on a wholesale basis to the PEG and business community. It is anticipated that high-speed digital lines will be available from point-to-point in standard and non-standard arrangement, including DS1 (1.5 MHz), 3 to 5 MHz bundles, DS3 (45 MHz), and possibly higher capacity connections – up to 100 MHz. The lines will be available on a non-discriminatory basis to local and long distance carriers, local value-added service providers, and local businesses. The availability of these lines, at an estimated cost of less than half the existing comparable high-speed copper lines, could bring choice and price competition to the greater TDPUD business community.

- TDPUD Applications - The needs of the electrical transmission and distribution sections of TDPUD will be addressed, with transport services to all substations. The optical fiber backbone facility will be capable of accommodate growing utility

requirements for system control and data acquisition (SCADA), high speed data transport, and interconnection of the Electric Department's substations.

- **Business Applications** - Lines between offices are to be available for teleconferencing, data networking, image transfer, or telephones. New leased lines will be provided to customers within shortened intervals. Customers will have low-cost access to telephone service providers. Individual businesses will benefit from competitive prices and prompt service. Redundant fiber optic paths are to be utilized to provide highly reliable transport service.
- **Private Data Networks** - Data network applications are anticipated to be the most common application on the system, meeting the performance and growth expectations driven by business computer use. The system will meet the reliability and security needs of critical business applications. Data lines will be extended directly to inter-exchange carriers allowing them to competitively reach customers without using the local exchange carrier. Long distance carriers could have the ability to offer local telephone service directly to customers by providing dial tone and switching service over the fiber SONET system. These interconnections with regional communications companies could provide more choices to customers. Access to alternate central offices and alternate points-of presence (POPs) may be available to businesses.
- **Value Added Services** - Providers of value-added service are to obtain high-speed lines and provide custom telecommunications applications. For example, value-added service providers can design, install and configure a business wide area network, composed of several local area networks linked with routers, which convert local area network signals for transmission on the SONET system.
- **High-Speed Transport Service for Local Schools and Public Safety** - The high-speed telephony and data transport network will be constructed to meet the transport needs of primary and secondary schools, junior colleges, public safety offices, other special districts, and libraries, if they so desire. These offices can use transport facilities for expanded internal communications and their services to the community.

INTERNET DATA TRANSPORT

Internet data transport would be offered on the hybrid fiber coax (HFC) system in partnership with Internet Service Providers (ISPs). Cable modems provide a data connection directly to the ISP, bypassing the telephone network, enabling high-speed Internet access for homes and small businesses. Subscriber could use Internet services for entertainment, education, and shopping for other products and services, with delivery of information in the form of multimedia text, images, animation, sound and video.

- **Cable Modems vs. Standard Telephone Lines** - Cable modems deliver data up to 1,000 times the speed of standard telephone lines. Customers could quickly search and retrieve information such as stock quotes, weather reports, and headline news.

Providing high-speed capability removes restrictions of telephone lines on size and complexity of Internet features, and frees the telephone line and network for telephone calls. Home computers could be continuously connected to the Internet, performing work without impacting telephone use. Restoring the household telephone for traditional use could also preserve the current flat-rate local telephone billing system.

- Cable Modems vs. ISDN - Integrated Services Digital Network (ISDN) was invented to make digital service available in the telephone network to homes. Cable modems provide approximately 100 times the speed of an ISDN line used for data. As home services become digital, the quality and variety of services the telephone network can deliver increases. ISDN enables many new telephone services, as well as data speeds of 144 KHz, two to four times the speed of standard telephone modems. As with common telephone lines, ISDN lines are switched circuits, tying-up capacity while the line is in use. ISDN lines have the same inherent impacts that standard telephone lines have on telephone network availability when used for Internet access.
- The following table illustrates TDPUD's sample ISP (Internet Service Provider) offering as compared to other services currently available in the Truckee area.

ISP	Type	Speed (bits per second)	Cost Per Month (\$)
TDPUD	Cable Modem	10,000,000	30.00
Telis	Dial-up	1,200 to 28,800	19.95
Sierra Net	Dial-up	1,200 to 28,800	25.00
The GRID	Dial-up	56,000	\$19.95
AOL	Dial-up	1,200 to 28,800	19.95 to 21.95
Compuserve	Dial-up	1,200 to 2,8800	\$21.95

- One-Way Cable Systems - Competing products, which deliver high-speed data, such as Direct Broadcast Satellite or Cable Data on one-way cable systems, continue to use telephone lines for the return path. Use of such products tends to exacerbate the already overloaded telephone system.

CABLE TELEVISION

Offering full service cable television directly to local homes could bring price, programming, picture quality, and service-level competition to the greater Truckee area. The system that delivers Internet data transport service also provides cable television. The use of fiber optics optimizes system operation and performance. TDPUD could offer a wide range of programming, including local broadcast, news and information, sports, arts and entertainment, movies, family, as well as public access, education, and government (PEG channels).

- **Basic Channels** - The basic tier offers channels received from local commercial broadcasters (ABC, CBS, FOX, NBC, PBS, UPN & WB), community-access programs, municipal television, local educational channels, and a television guide. The approximate cost could be \$10.00 per month. The incumbent provider does not currently offer a service tier of this type.
- **Expanded Basic Channels** - The total price for this package could be approximately \$15.00 per month for 21 channels including the basic cable channels, 30 channels of digital music, and a converter box offering access to pay-per-view movies and events and Web surfing. The incumbent provider does not offer a service tier of this type.
- **Super Expanded Basic Channels** - Super Expanded Basic channels includes basic and expanded basic channels, for a total of 48 channels at a total price of \$30.00 per month. This compares with the incumbent's offering of \$38.68 for 36 channels.
- **Premium Channels** - Premium channels such as HBO, Showtime and Starz! are included would be favorably price by comparison to services currently provided.

DARK FIBER

The Attributes of Dark Fiber - Dark fiber is a passive material, requiring only minimal operations and administration support. The lease or sale of dark fiber capacity places primary responsibility for applications and installation of electronics in the hands of the intermediary (e.g., CAPs) or end-user. The user may choose to use fiber to transport massive amounts of bandwidth (e.g., OC-3, OC-12, and OC-48) via high-powered (and costly) electronics—in which case the cost of fiber is no object—or the fiber may be used to transport low-speed data as a highly reliable, wire-like commodity, in which case cost is a critical factor.

A tradeoff between the cost of fiber and the cost of electronics comes into play—high cost fiber installation shifts attention towards more sophisticated electronics for the same basic application. The *elasticity* of fiber demand reflects the substitution of electronics for fiber capacity. The ability to install and utilize more fiber strands allows the use of less expensive electronic equipment. Conversely, higher prices for lease of dark fiber will result

TELECOMMUNICATIONS PRODUCTS AND SERVICES TO BE OFFERED BY TDPUD

in use of more expensive electronics to reduce the required number of strands to achieve a market objective.

Prices in other communities that offer dark fiber range from \$200 to \$40 per strand-mile per month, as shown below.

<u>Fiber Strand Price (\$/Fiber-Mile/Month)</u>			
<u>Municipality</u>	<u>Spot Price</u>	<u>Best Price</u>	<u>Rationale</u>
Palo Alto ¹	222 (178)	185 (148)	Reduce prices by 20 percent
Burbank ²	175	135	Scarce resource, bandwidth goal
Eugene, OR	150	100	Test market initially
Longmont, CO	4	37	Economic development tool
Williams	125	83	CLEC experience
Alameda	-	-	Offering frozen at 4 fibers
PacBell	-	-	Not offered. Engineering request
<u>Conduit Prices Based on 4 Inch Diameter Shell (\$/Mile/Month)</u>			
PacBell	20	120	Locations dependent
San Francisco	440		Williams' estimate

¹ The City of Palo Alto has installed a network for the sole purpose of leasing dark fiber. The *spot* fiber price, as cited in its marketing brochure, is \$2,591 per fiber-mile per year, corresponding to \$216 per fiber-mile per month. Various bulk discounts are offered, with a minimum discounted price of \$86 per fiber-mile per month. Demand from CLECs and CAPs, the primary market for dark fiber, has not yet materialized.

² The City of Burbank has leased fiber at \$175 per month, but only a small percentage of total capacity has been leased.

APPENDIX 4

EXAMPLES OF INITIATIVES BEING TAKEN BY OTHER CITIES

Glasgow, Kentucky

Glasgow has established a citywide network with broadband capabilities that would otherwise not available from either the local telephone or cable television companies. Glasgow has considered the municipal-owned broadband network as the *economic engine to power the community into prosperity during the coming information age*. The two elements that provided the economic justification for the project were electric energy management and competitive cable television.

Today competitive cable television and telephone are available; and a 4 MHz per second citywide computer network ties together all Glasgow homes, schools, businesses and government agencies.

- The citywide network connects stand-alone PC's and file servers with their associated workstations in any home or business throughout the city.
- The network is also connected to a T-1 circuit that allows anyone on the Glasgow network to have 1.5-megabit speed access to the Internet simply by clicking on the Netscape icon to establish the connection, without any connection to a telephone or a telephone modem.
- The system is used to synchronize traffic signals in town so streets carry the optimum amount of traffic, thus achieving higher efficiency in the investments the city has made in streets, roads and highways.

Ashland, Oregon

The City Council adopted the goal of building a fiber optic ring with an initial focus on improving electric utility efficiency with automated meter reading, load control, substation management, and outage detection. Ashland's fiber optic network now provides a telecommunications infrastructure that would not otherwise have come to the community. The network meets the municipal-owned electric utility's need with respect to positioning for electric deregulation; provides high quality telecommunications services to the public; and helps reduce utility operations costs.

Cable TV services provide an additional \$3.2 million in revenue for -- an additional capital cost of \$1.5.

The Internet connection is the fastest available. Software companies are creating state-of-the-art products to make use of the network's capabilities.

The network is long-term economic development tool by:

- Enabling local businesses to compete more effectively.
- Providing PEG institutions and large businesses significant opportunities to utilize new technology to reduce costs, improve service and implement distance learning and training concepts.
- Providing the City's schools with unparalleled access to high-speed data and video.
- Giving the local college's off-campus students and faculty high-speed data solutions.
- Enabling the hospital to improve its service to the community
- Providing residents a choice for Cable TV programming.
- Providing high-speed data access to the home -- significantly enhancing the community's growing numbers of home businesses.

Alameda, California

The City, situated on a 12.4 square mile island, operates a municipal electric utility. The electric distribution system is comprised of 94 miles of overhead circuitry and 92 miles of underground circuitry. Alameda's population of 80,000 experienced significant growth. It is a wealthy community, with half the households having incomes over \$50,000 and with an average household income of \$68,000.

The City has adopted an aggressive approach to telecommunications market entry:

- Alameda is offering cable television and Internet services to residential users and providing telephony to government institutions.
- Internet service is being provided to public and private schools, and excess fiber capacity (dark fiber) is being leased to commercial providers.
- Alameda's strategy was to overbuild the existing CATV plant of TCI and offer competitive CATV services.

Construction of a two-way hybrid fiber/coax system began in January 1998 and is now complete, with a capital investment of approximately \$8 million. A break even level of 4,500 customers was anticipated by the year 2000. A fiber optic ring was also installed in 1996 for internal use and for a lease through a competitive access provider and that already has achieved a break-even threshold. Responsibility was assigned to the Bureau of Electricity that hired marketing and operations personnel.

To this point, the City has attracted over 200 high tech companies as evidenced by a concentration of software programming networking, and peripherals manufacturing, biotech and related service opportunities. It developed Alameda Point, what used to be the Alameda Naval Air , which is undergoing conversion to private and commercial uses, with nearly 3 million square feet being converted into commercial facilities and another 3 million square feet available for new development.

APPENDIX 5

REGULATORY CONSIDERATIONS

There does not appear to be any obstacle at Federal or State levels that would prohibit the District's entry into the telecommunications market, either as a provider of services, a participant in a joint venture relationship or partnership, or as a facilitator to promote telecommunications infrastructure development.

- **Federal Guidelines** - The Telecom Act of 1996 encourages new entrants—including Districts—into telecommunications to stimulate competition. Districts possess the requisite legal authority to undertake the installation, operation, and maintenance of a broadband communications network serving internal and public needs. Interconnection and unbundling of network elements has reduced barriers to entry. But municipalities and Districts must be mindful of level playing field issues. A five percent franchise fee has been incorporated in the business case analysis to ensure that the Town of Truckee would maintain its source of revenues from the CATV franchise.
- **State Guidelines** - California state statutes do not require a District or publicly owned utility to obtain approval or authorization from the California Public Utility Commission (CPUC) before becoming a telecom operator. Cities and other public jurisdictions (including public utility districts) are not under the jurisdiction of the CPUC and do not require a Certificate of Convenience for selling common carrier services or any advanced telecommunications services.
- **County Guidelines** - The development of a District broadband communications system requires compliance with applicable provisions of the Local Agency Formation Committee (LAFCO).
- **TDPUD Charter** - The TDPUD's charter does not impose any restrictions on the provisioning of telecommunications services.

APPENDIX 6

SENSITIVITY ANALYSIS

Sensitivity analyses were undertaken to assess the impact of possible shortfalls in revenues due to lower revenue per household and lower than anticipated subscriber demand.

30 Percent Reduction in Revenues Per Subscriber

In this scenario, fierce competition from Satellite Television and the incumbent carrier forces a 30 percent reduction in average revenue per subscriber to hold market share. In this case total annual revenues increase from \$1.0 million in Year 1 (versus \$1.3 million in the base case) to \$3.5 million annually in Year 15 (versus \$4.8 million in the base case). Operating expenses increase from \$1.0 million (versus \$1.1 million) to \$2.1 million (versus \$2.3 million) during the corresponding period. Operating margins, the difference between Revenues and Operating expenses are positive throughout the period, increasing from \$15,000 (versus \$236,000) to \$1.5 million (versus \$2.4 million) during this time span.

Net Income, including loan origination fees and interest payments, is negative for the initial four-year period, but turns positive in the fifth year and continues to increase over the 15-year horizon. Earning approach \$500,000 by the eighth year, \$800,000 in the 11th year, and more than \$1.1 million in the 13th year.

75 Percent Reduction in Subscribers in First Year; 50 Percent Reduction in Subscribers in Tenth year

In this scenario, due to competitive forces and lack of subscriber interest, adequate demand fails to materialize, particularly in the formative years. Only 25 percent of the estimated subscriber base are realized in the startup phase (6 percent of homes passed), reaching only half of the estimated subscriber base in the tenth year (25 percent of homes passed). In this case total annual revenues increase from \$500,000 in Year 1 (versus \$1.3 million) to \$3.1 million annually in Year 15 (versus \$4.8 million). Operating expenses increase from \$800,000 (versus \$1.1 million) to \$1.9 million (versus \$2.3 million) during the corresponding period. Operating margins are negative for the initial four-year period, with losses decreasing from \$300,000 to \$100,000 during the period; but margins turns positive in the fifth year and continue to increase over the 15-year horizon, from \$11,000 (versus \$236,000) to \$1.2 million (versus \$2.4 million) during this time span.

Net Income, including loan origination fees and interest payments, is negative for the initial nine-year period, but turns positive in the tenth year and continues to increase over the 15-year horizon. Losses are over \$900,000 in the first year, but decrease to \$200,000 by the eighth year. Earnings approach \$200,000 in the 11th year, and reach more than \$600,000 in the 13th year.

The sensitivity analysis indicates that there is substantial latitude in achieving business success. Even revenues are slashed by 30 percent to business is viable. It would take

drastic reductions in estimated subscribership to undermine the viability of the telecommunications enterprise over the long term. The staying power of the TDPUD can sustain the business during unanticipated problems encountered during the formative years, until the business matures and revenues are secured.

Alternative Construction Scenarios

The TDPUD network utilizes an aerial system. An alternative, underground route is also available along Donner Pass Road.¹ Consideration was given to utilization of this underground route as a means of cost reduction and construction avoidance. Use of underground facilities is not recommended for the following reasons:

- Construction cost savings would not be material. The cost of fiber would be virtually the same, whether underground or aerial infrastructure was utilized. Savings in fiber placement on the TDPUD's existing poles would be offset by the costs of pulling fiber, and installation of additional attach points (involving manholes or handholes).
- Use of conduit for the backbone could result in stranded capacity for long-haul telecommunications network applications. As such, the *opportunity costs* of tying-up conduit capacity would overshadow any short-term benefits.
- The potential value of TDPUD's two two-inch conduits should be considered from a *construction-avoidance* perspective.
- An equivalent 16-mile two-inch conduit would at a cost of approximately \$30 per foot to construct, with a corresponding construction avoidance value of approximately \$2.5 million for each conduit pathway.
- If, during the next several years, these two conduits were sold at a construction avoidance value of \$5 million (or more), these revenues could be applied to retire TDPUD's Certificate of Participation obligation. If this were realized, the net cost of TDPUD telecommunications network would, in effect, would be reduced accordingly.²

¹ Provision has been made for use of underground conduit in a 2,000-foot segment along Donner Pass Road where aerial facilities may not be available.

² This does not take into consideration cost savings realized by the electric utility in installation of electric conduit.

EXHIBIT 4

License Agreement

1965

LICENSE AGREEMENT

THE TRUCKEE PUBLIC UTILITY DISTRICT, a body politic, hereinafter called "Licensor," and THOMAS KIRBY, doing business as TOM'S TV, hereinafter called "Licensee," mutually agree that the following terms and conditions shall govern Licensee's use of poles in which Licensor has an ownership or other interest, located within the areas in or near the Town of Truckee, County of Nevada, State of California, which are delineated on the map hereto attached, marked "Exhibit A", and hereby made a part hereof.

1. Licensee's use of said poles shall be confined to supporting those cables, wires and appliances, together with associated messenger cables, guy wires, anchors and other appurtenances, all hereinafter called "equipment," which Licensor has given Licensee written permission to install. Licensee may use said equipment in a community antenna television system operating within the aforesaid areas to distribute television programs to the homes and businesses of Licensee's subscribers within said areas. Licensee may make incidental use of said equipment for distribution to its subscribers of FM music (studio-originated or off-the-air) or the occasional transmission of other television signals for educational or entertainment purposes. Licensee shall use said equipment only for such community antenna television and related incidental purposes.

2. Whenever Licensee shall desire to place equipment on any of said poles, Licensee shall make written application, in triplicate, to Licensor for permission to do so, substantially in the form hereto attached, marked "Exhibit B," and hereby made a part hereof. If said application is approved, permission to place the equipment described in said application on the pole or poles therein identified shall be granted by Licensor or its duly authorized manager, agent, or representative, by signing one copy of said application in the place provided therein for that purpose, and returning said signed copy to Licensee.

3. Upon receiving said signed copy of said application, but not before, Licensee shall have the right to install, maintain and use the equipment described in said application on the pole or poles identified therein; provided, however, that before commencing any such installation Licensee shall notify Licensor of the time when it proposes to do said work sufficiently in advance thereof so that Licensor may arrange to have its representative present when such work is performed, and provided further, that Licensee shall complete such installation within such reasonable time limit as may be specified in said approved application.

4. Licensee shall not have the right to place, nor shall it place, any additional equipment on any pole used by it hereunder without first making application for and receiving permission to do so, all as prescribed in paragraph numbered 2 hereof; nor shall Licensee change the position of any equipment on any pole hereunder without Licensor's prior written approval.

5. (a) Licensee shall, at its own sole risk and expense, place and maintain said equipment on said poles (i) in a safe condition and in thorough repair, (ii) in a manner suitable to Licensor and so as not to conflict or interfere with the working use of said poles by Licensor or others using said poles, or with the working use of facilities of Licensor or others on or from time to time placed on said poles, and (iii) in conformity with such requirements and specifications as Licensor shall from time to time prescribe and with all laws, and the regulations, orders, and

1 powers of all lawfully constituted bodies and tribunals, pertain-
 2 ing to pole line construction, including, without limiting the
 3 scope of the foregoing, General Order No. 95 of the Public Util-
 ities Commission of the State of California, and any supplements
 thereto and revisions thereof.

4 (b) Licensee shall complete the installation of its
 5 equipment on the pole or poles covered by each approved individual
 6 application within such time limit as Licensor shall designate on
 7 said application for such installation; and in the event Licensee
 8 should fail to complete the installation of its equipment on said
 9 pole or poles within said prescribed time limit, the permission
 granted by Licensor to place said equipment on said pole or poles
 shall thereby automatically be revoked and Licensee shall not have
 the right to place said equipment on said pole or poles without
 first reapplying for and receiving permission to do so, all as
 prescribed in paragraph numbered 2 hereof.

10 6. (a) If in the judgment of Licensor, the accommodation
 11 of any of Licensee's equipment necessitates the rearrangement of
 12 facilities on a pole or the replacement of a pole, Licensor will
 13 indicate on said application the necessary changes and the esti-
 14 mated cost thereof and return it to Licensee; and if Licensee still
 15 desires to use said pole or such replacing pole and returns the
 16 application marked to so indicate, Licensor will make such pole
 17 replacement if required, and Licensor will make, and will request
 18 other owners, if any, of said existing facilities to make, such
 rearrangements or transfers of said existing facilities as may be
 required, all at the sole risk and expense of Licensee, and Licensee,
 on demand, will reimburse Licensor and each such other owner
 for the entire expense thereby incurred by each of them. Licensor
 shall not be responsible to Licensee for any loss sustained by
 Licensee by reason of the failure of any such other owner to make
 such rearrangements or transfers.

19 (b) If in Licensor's judgment, Licensee's existing
 20 equipment on any pole interferes with or prevents the placing of
 21 any facilities thereon required by Licensor or by any other owner
 of an interest in or of facilities on said pole, and if said fac-
 22 ilities could be placed on said pole by removing Licensee's equip-
 23 ment therefrom, or by rearranging the existing facilities (exclud-
 24 ing rearrangement of Licensee's equipment alone) thereon, Licensor
 25 may notify Licensee of the rearrangements of existing facilities
 26 or pole replacement and transfers of existing facilities required
 27 in order to continue the accommodation of Licensee's equipment,
 28 together with an estimate of the cost of making any such changes;
 29 and if Licensee desires to continue to maintain its equipment on
 30 said pole or such replacing pole and so notifies Licensor, Licensor
 31 will make such pole replacement if required, and Licensor will make
 32 and will request other owners, if any, of said existing facilities,
 to make, such rearrangements or transfers of said existing facili-
 ties all at the sole risk and expense of Licensee, and Licensee,
 on demand, will reimburse Licensor and each such other owner for
 the entire expense thereby incurred by each of them. Licensor shall
 not be responsible to Licensee for any loss sustained by Licensee
 by reason of the failure of any such other owner to make such
 rearrangements or transfers. If Licensee does not so notify Licen-
 sor, Licensee shall remove its equipment from such pole within
 thirty (30) days from such notification from Licensor.

7. If Licensee should require equipment in a location upon
 any public thoroughfare or other public or private property, and
 Licensor shall not have poles so located as to fulfill Licensee's

requirements, Licensee shall notify Licensor of its need for such poles in order that Licensor may determine whether it wishes to place poles in such location. If Licensor is willing to erect poles in such location adequate to care for the service requirements of the parties hereto, Licensor shall so notify Licensee and thereupon Licensee shall make application under this Agreement for permission to place its equipment thereon. Upon receipt of said application Licensor shall proceed to erect said poles.

8. In order to keep the number of poles on public thoroughfares and elsewhere to a practicable minimum, Licensee agrees not to erect any pole of its own in or near any location where Licensor is willing to accommodate Licensee's equipment or to provide a pole adequate to accommodate Licensee's equipment. Licensee further agrees not to erect any pole of its own near an existing pole until Licensor has notified Licensee that it is unwilling to accommodate Licensee's equipment; and not to erect any poles of its own where no poles exist until Licensor has notified Licensee that Licensor does not desire to erect poles in such location.

9. Nothing in this Agreement shall be construed to obligate Licensor to grant Licensee permission to use any particular pole or poles. If such permission is refused, Licensee is free to make any other arrangement it may wish to provide for its equipment at the location in question; and in the construction and maintenance of pole lines required therefor, Licensee agrees to conform to the requirements of General Order No. 95 of the Public Utilities Commission of the State of California, and any supplements thereto and revisions thereof.

10. (a) Licensee, at its own sole risk and expense, shall provide, own and maintain such guys and anchors as are required to hold the strains of its equipment on said poles in all cases where Licensee's anchorage requirements are not coincident with those of Licensor.

(b) In general, in those cases where the anchorage requirements of Licensee and Licensor are coincident, the strains of Licensee's equipment and of Licensor's facilities on said poles shall be held by the same guys and anchors; however, in individual cases when in Licensor's judgment such procedure is desirable, Licensee, at its own sole risk and expense, shall provide, own and maintain separate guys or anchors, or both, to hold the strains of its equipment on said poles.

(c) In those cases where existing guys and anchors are inadequate to hold Licensee's strains and separate guys and anchors are not desired or if guys and anchors being used by Licensee should be inadequate to hold additional strains of Licensor and any other owner or owners of facilities on said poles, or any of them, resulting from the placement of additional facilities on said poles and said guys and anchors would have been adequate to hold the additional strains if Licensee's strains were removed therefrom, Licensor shall cause the existing guys and anchors to be replaced with adequate guys and anchors at the sole risk and expense of Licensee, and Licensee, on demand, will reimburse Licensor for the entire expense thereby incurred.

11. Licensor reserves to itself and to each otherowner of facilities on said poles the right to maintain said poles and to operate their facilities thereon in such a manner as will best enable them to fulfill their own service requirements, and neither Licensor nor any said other owner shall be liable to Licensee for

any interruption to Licensee's services or for any interference with the operation of Licensee's equipment arising in any manner from the use of said poles and the facilities thereon by Licensor and each said other owner, nor shall Licensor be liable to Licensee, or any other person, by reason of any work, act, activity, or operation of utility made, done, undertaken, or carried on by Licensor.

12. Licensor will obtain from public authorities and private owners of real property any and all permits, licenses or grants necessary for the lawful exercise of the permission granted by any application approved hereunder; and Licensee shall submit to Licensor evidence of compliance with the foregoing requirements prior to or at the time of making application for permission to place said equipment on said pole or poles.

13. Licensee shall at any time, at its own sole risk and expense, upon notice from Licensor, relocate, replace or renew said equipment or transfer it to replacing poles, or perform any other work in connection with said equipment that may be required by Licensor; provided, however, that in cases of emergency, Licensor may, at Licensee's sole risk and expense, relocate, replace or renew said equipment, transfer it to replacing poles or perform any other work in connection with said equipment that may be required in the maintenance, replacement, removal or relocation of said poles or the facilities thereon or which may be placed thereon, or for the service needs of Licensor or any other owner of an increase in said pole or of facilities thereon, and Licensee, on demand, will reimburse Licensor for the entire expense thereby incurred.

14. Licensee may at any time remove its equipment from any of said poles and, in each such case, Licensee shall immediately give Licensor written notice of such removal in the number of copies and in the form from time to time prescribed by Licensor. Removal of said equipment from any pole shall constitute a termination of Licensee's right to use such pole.

15. For the privilege of placing and maintaining said equipment on said poles, Licensee shall pay to Licensor semi-annually in advance, amounts to be computed on the 1st day of January and one the 1st day of July of each calendar year during the existence of this Agreement at the rate of Two Dollars and Fifty Cents (\$2.50) for each pole, per annum, used by Licensee on the date of computation, said sum being payable semi-annually and the aggregate amount of payment being determined by audit, as hereinafter provided.

Semi-annually, on or about July 1st and January 1st of each year, Licensor and Licensee shall jointly audit the number of poles in use, which shall establish the payment due, in advance, for the next six months period. In the event additional poles be put in use, during the period between audit, the charge hereinabove set forth shall be paid in advance, pre-rated to the next succeeding audit date, and in the event, during the period between audit, use of any poles by Licensor hereunder be abandoned or discontinued, Licensee shall first notify Licensor thereof in writing in advance which notice shall specify or designate the pole or poles the use of which is to be abandoned or discontinued, and the date on which the stop will occur; in which event the charge therefor shall be pre-rated as of the date of such abandonment or discontinuance, or the date specified in said notice, whichever shall be later.

By giving six (6) months' notice to Licensee, Licensor may from time to time increase or decrease the rate specified above,